


Amendments to the Claims

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Claim 1 (Currently amended): A soil probe for collecting soil samples, comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a
plurality of soil probes extending radially outward from the perimeter for collecting soil
samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving
the wheel between raised and lowered positions; ~~and~~
the first and second sections of the frame being pivotally connected such that the wheel is
movable between a longitudinally extended use position and a laterally folded transport
position; and
each probe having an outer end for receiving and discharging the soil sample.

Claim 2 (Original): The soil probe of claim 1 wherein the wheel includes a plurality of plunger assemblies, each plunger assembly being associated with one of the probes and being movable between an inoperative retracted position and an extended position within the probe to expel a soil sample from the probe.

Claim 3 (Original): The soil probe of claim 2 wherein the plunger assemblies are biased toward the retracted position.

Claim 4 (Original): The soil probe of claim 2 wherein the plunger assemblies are pivotally mounted on the wheel for movement between the retracted and extended positions.

Claim 5 (Original): The soil probe of claim 2 wherein the wheel includes a cam and the plunger assemblies are moved from the retracted position to the extended position by the cam.

Claim 6 (Original): The soil probe of claim 2 wherein each plunger assembly includes a pivot arm and a clean out rod, the rod being aligned with the associated probe for axial movement with respect to the probe.

Claim 7 (Original): The soil probe of claim 1 further comprising a pin removable extending through the first and second sections to retain the wheel in the use positions.

Claim 8 (Original): The soil probe of claim 7 wherein one of the first and second frame sections includes a slot through which the pin extends to allow a range of angular movement between the first and second frame sections.

Claim 9 (Original): The soil probe of claim 1 further comprising a plurality of spikes extending radially outward from the perimeter of the wheel.

Claim 10 (Currently amended): The soil probe of claim ~~8~~ 1 wherein ~~one~~ a spike is positioned between adjacent probes.

Claim 11 (Original): The soil probe of claim 1 wherein the use and transport positions of the wheel are substantially perpendicular to one another.

Claim 12 (Cancelled)

Claim 13 (Original): The soil probe of claim 1 further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

Claim 14 (Original): A soil probe for collecting soil samples, comprising:
a frame adapted to be mounted on a vehicle;
a wheel rotatably mounted on the frame;
at least one probe extending outwardly from the wheel and having an outer end adapted to receive a soil sample and an inner end; and

a plunger rod mounted in the wheel for movement between a retracted position adjacent the inner end of the probe and an extended position adjacent the outer end of the probe to discharge the soil sample from the outer end of the probe.

Claim 15 (Original): The soil probe of claim 14 wherein the plunger rod is mounted on an arm pivotally mounted on the wheel.

Claim 16 (Original): The soil probe of claim 15 further comprising a cam on the wheel adapted to periodically engage and pivot the arm to move the plunger rod from the retracted position to the extended position.

Claim 17 (Currently amended): The soil probe of claim 14 wherein the frame includes a first section pivotal about a horizontal axis such that the wheel is movable between raised and lowered positions and a second section pivotal about an upwardly angled axis such that the wheel is movable between ~~extended use~~ and ~~retracted transport~~ positions.

Claim 18 (Currently amended): The soil probe of claim 17 further comprising a pin removably extending through the first and second sections to retain the wheel in the use and transport positions.

Claim 19 (Original): The soil probe of claim 17 wherein the use and transport positions of the wheel are substantially perpendicular to one another.

Claim 20 (Original): The soil probe of claim 14 wherein the plunger rod is biased toward the retracted position.

Claim 21 (Original): The soil probe of claim 14 further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

Claim 22 (Original): A method for obtaining a soil sample, comprising:

rotating a wheel having a probe such that the probe penetrates the soil to collect a soil sample through an open outer end of the probe;
continuing rotation of the wheel such that the probe is withdrawn from the soil with the soil sample retained in the probe; and
extending a plunger rod into an inner end of the probe so as to discharge the soil sample through the outer end of the probe.

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Claim 23 (Original): The method of claim 22 wherein the extension of the plunger rod is automatic upon continued rotation of the wheel.

Claim 24 (Original): The method of claim 22 wherein the extension of the plunger rod is by cam action.

Claim 25 (Original): The method of claim 22 further comprising preventing reverse rotation of the wheel.
